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A NEW WAY TO USE WHOLE-CHROMOSOME PAINTING PROBES (WCPs) IN A CLINICAL CASE

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The analysis of banded karyotypes still remains the best way to evaluate chromosome aberrations that can be later confirmed by FISH analysis with specific markers or whole-chromosome painting probes (WCPs). In this study, we found out a new reciprocal translocation in a phenotypically normal young sheep, from Laticauda breed. This time, we came up with an innovative approach to it, mixing classical cytogenetic to underline the importance to perform banding analysis and, molecular cytogenetic showing a new way to use WCPs get from ders.

Cytogenetic analyses such as RBA-banding and karyotyping were performed to characterize the kind of aberration. Two kind of FISH analyses confirmed it. They included different types of WCPs: two of them get from corresponding cattle chromosomes and another get from the smallest der. Firstly, thanks to RBA-banding, we individuated the chromosomes and their regions involved. Everything was confirmed generating WCPs by chromosome microdissection from cattle chromosomes. Secondly, we come out with the idea to produce the WCPs of the smallest der in order to study its rearrangements on sheep chromosomes. We made up and, hybridized it on both OAR (*Ovis aries*) and BTA (*Bos Taurus*) metaphases. While centromeric signals were detected in the majority of OAR chromosomes due, most probably, to the presence of the entire centromere in the der; 2 sub-centromeric signals on corresponding chromosomes 21 and two distal signals on chromosomes 24 were found out in the BTA metaphases. Finally, we identified the chromosomal aberration as rcp(18q,23q)(q14;q26).

In animal cytogenetic is not very easy get WCPs that work well in Bovids because they are, more often, produced using BTA chromosomes and hybridized in different species. All the probes, used in this study, were self-produced giving new ways of their application and, consequently new results. In this way we underlined both the importance to generate WCPs by microdissection and, a new way to use them. Acknowledgements.

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